

# PITTSBURG STATE UNIVERSITY



# INTRODUCTION

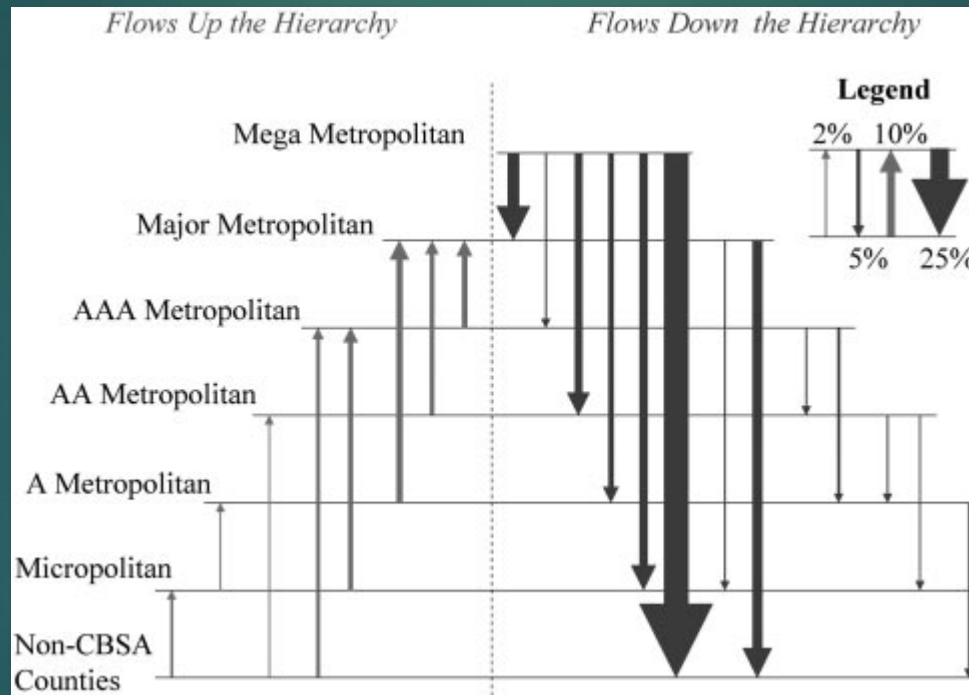
- ▶ Micropolitan is defined as an area with over 10,000 residence but less than 50,000
- ▶ It is estimated that 30 million Americans (10% of population) live in these areas
- ▶ Researching the growth rate, and reasons for the growth in these micropolitan areas can lead to the creation of goals and standards to attract residence to their areas

# MIGRATION TRENDS

## Demographic Effectiveness

Migration up and down the urban hierarchy and  
across the life course

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# PURPOSE AND CONTRIBUTION OF THE STUDY

- ▶ Micropolitan Areas Were First Defined in 2003
- ▶ This paper and resulting presentation attempts to add to the economic literature of migration determinants, in hopes of finding significant variables that cities and counties can use to curb out-migration as well as increasing in-migration

# LITERATURE REVIEW

- ▶ Kenneth Johnson discusses the trend in the 20<sup>th</sup> century of migration to non-metropolitan areas
- ▶ In this report, it is found that roughly 17% of the population, and 75% of the land area in the U.S. is classified as non-metro
- ▶ During the 1990's, larger micropolitan areas grew faster than those on the smaller side of the classification (MacKun, 2005).
- ▶ The fastest growing micropolitan areas are shown to be located near larger metropolitan areas (Plane, 2003).

# THE EMPIRICAL MODEL

$$\left[ \begin{array}{c} \textit{Percent Growth} \\ \textit{in Migration During} \\ \textit{the 2000 – 2010} \\ \textit{Period} \end{array} \right] = \left[ \begin{array}{c} \textit{Vector of} \\ \textit{Social} \\ \textit{Variables} \\ \textit{in} \\ \textit{2000} \end{array} \right] + \left[ \begin{array}{c} \textit{Vector of} \\ \textit{Economic and} \\ \textit{Productivity} \\ \textit{Variables} \\ \textit{in} \\ \textit{2000} \end{array} \right] + \left[ \begin{array}{c} \textit{Vector of} \\ \textit{Fixed Effects} \\ \textit{and} \\ \textit{Other Control} \\ \textit{Variables} \\ \textit{in} \\ \textit{2000} \end{array} \right]$$

# DATA

- ▶ 2000 Census and Subsequent Census Estimates
- ▶ 48 Contiguous US States
- ▶ 554 Micropolitan Areas
- ▶ 668 Counties



# THE EMPIRICAL MODEL

- ▶ Using Least Squares regression
- ▶ Used 59 total variables
- ▶ 18 proved to be significant
  - ▶ 16 at 5% level
  - ▶ 2 at 10% level
- ▶ The percentage level indicates how often you are going to be wrong when the results show they are correct (significant)



# THE EMPIRICAL MODEL

## Econometric Study

	Coef.	STD	T	P	5%	10%
BLT1950TO1959	-2.72345	0.588933	-4.62439	4.82E-06	1	
BLT1939OREAR	-2.74507	0.598321	-4.58796	5.70E-06	1	
BLT1970TO1979	-2.89718	0.637335	-4.54577	6.91E-06	1	
BLT1940TO1949	-2.68398	0.6129	-4.37914	1.46E-05	1	
BLT1960TO1969	-2.50675	0.582115	-4.30629	2.01E-05	1	
BLT1980TO1989	-2.4651	0.592176	-4.16279	3.72E-05	1	
BLT1995TO1998	-2.16582	0.647661	-3.34407	0.000889006	1	
BLT1990TO1994	-2.21269	0.716439	-3.08846	0.002126364	1	
PERMINING2000	0.562559	0.183826	3.060284	0.002332793	1	
TAXREV2002	1.691576	0.590508	2.86461	0.004354852	1	
NUM2000	7.68E-07	2.75E-07	2.790448	0.005469202	1	
VACANT2000	-0.20457	0.081872	-2.49864	0.012794092	1	
PROPTAXEX2002	-1.5258	0.646451	-2.36028	0.018652942	1	
PERMARRIED2000	0.306043	0.13917	2.199064	0.028340826	1	
AVGWAGES	-0.00211	0.001027	-2.05122	0.040777629	1	
PROPTAX2000	1.486797	0.73735	2.016405	0.044303876	1	
BIRTHSPER1000	0.003846	0.00214	1.797323	0.072901177		1
PERBLACK2000	-0.06971	0.041697	-1.67175	0.095212491		1

# THE EMPIRICAL MODEL

## Findings

- ▶ How old the housing is has a significant negative effect on migration
- ▶ Property tax and overall tax revenue effects migration negatively
- ▶ Average wages and births per 1000 people also effect the migration, also a negative effect
- ▶ Number of vacant houses has a negative effect
- ▶ Percent married has a positive effect on the migration
- ▶ This leads me to believe the migration is mostly amenity oriented, due to wages, old housing and taxes being negative

# THE EMPIRICAL MODEL

## PITTSBURG RELATIVE PERFORMANCE

- ▶ While the average micropolitan area grew at over 5% from 2000-2010, Pittsburgh grew at 2%
- ▶ The old, dilapidated housing stock seems to be a major factor,
- ▶ 52% of the housing in Pittsburgh was built prior to 1959,
- ▶ While tax rates are higher here, per capita income is lower, meaning less tax revenue
- ▶ 10% of homes in Pittsburgh are vacant
- ▶ Average wages are lower in Pittsburgh on average when compared to other Micro areas

# THE EMPIRICAL MODEL

## PITTSBURG RELATIVE PERFORMANCE

- ▶ Property taxes are higher in Pittsburgh, which could be unattractive, since the housing is so old
- ▶ Sales tax is also higher here, which is an unattractive part of moving to a new place
- ▶ Take home message is that the Pittsburgh housing stock does not seem to be conducive to amenity migration
- ▶ Population also had a positive effect, meaning larger micropolitan areas grew faster than the smaller ones, which corroborates the Plane and Mackun studies previously mentioned

# THE EMPIRICAL MODEL

## Conclusions

- ▶ Variables that apply to Migration
  - ▶ Age of housing stock
  - ▶ Tax rates and revenues
  - ▶ Average wages
  - ▶ % of homes that are vacant
  - ▶ % of Married couples
- ▶ To help Pittsburg grow, a few suggestions would be
  - ▶ Make it easier/more accessible to build new housing
  - ▶ Temporarily lower property taxes, or reduce restrictions to entice people to build new housing
  - ▶ Getting more people in, and more housing build would improve the economic outlook, possibly increasing tax revenue, without having to adjust the rate



# QUESTIONS

